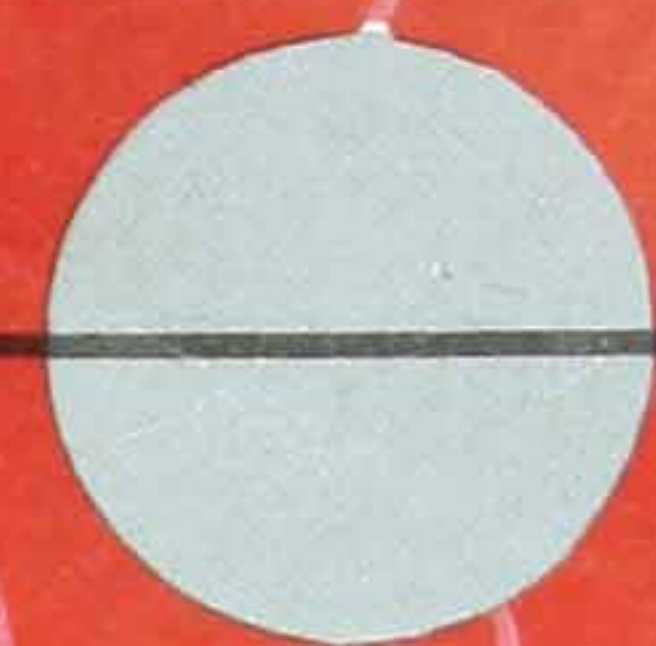
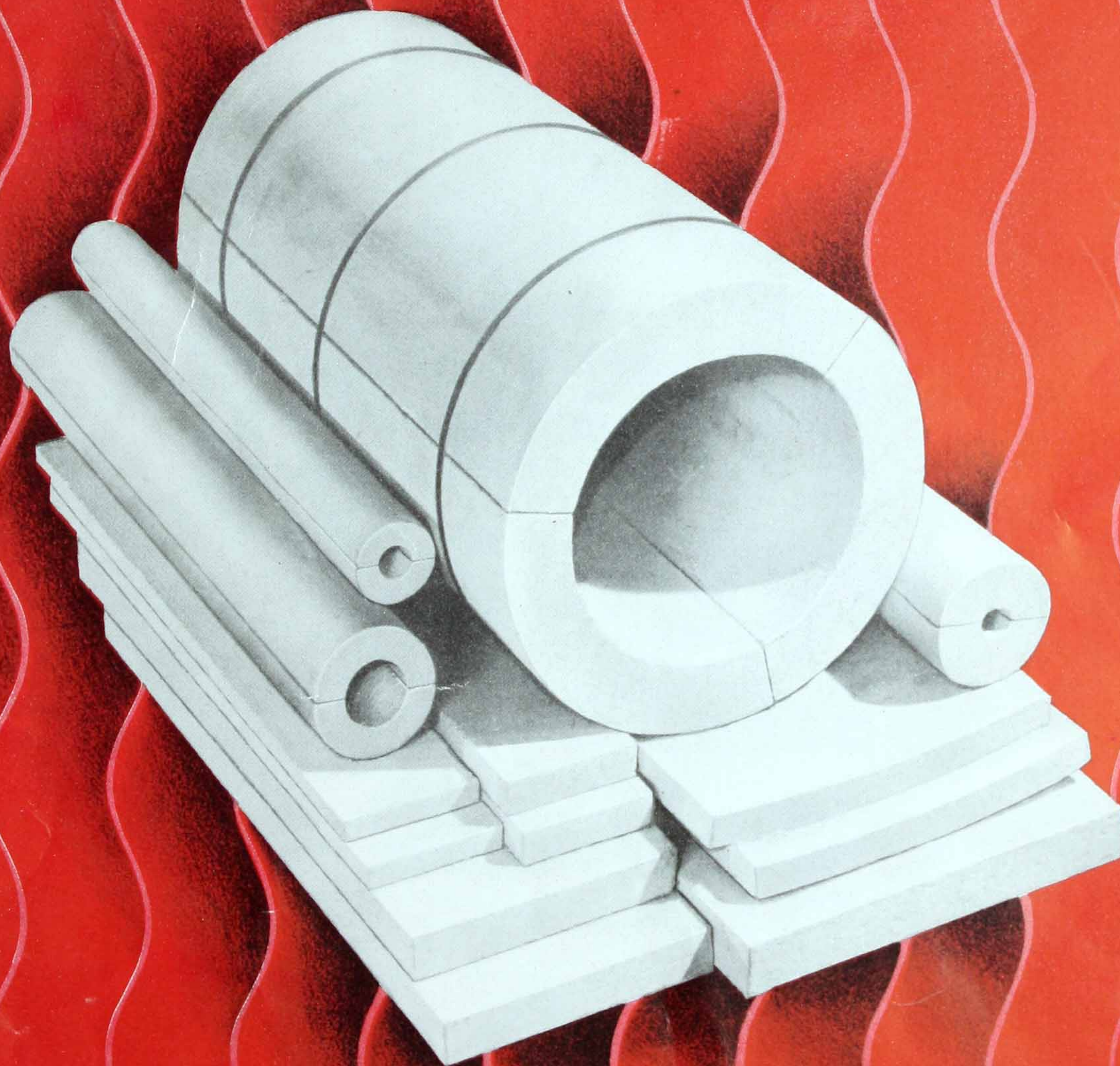


691.9



**for temperatures up to 1200° F.**



OWENS  ILLINOIS  
GLASS COMPANY, Toledo 1, Ohio

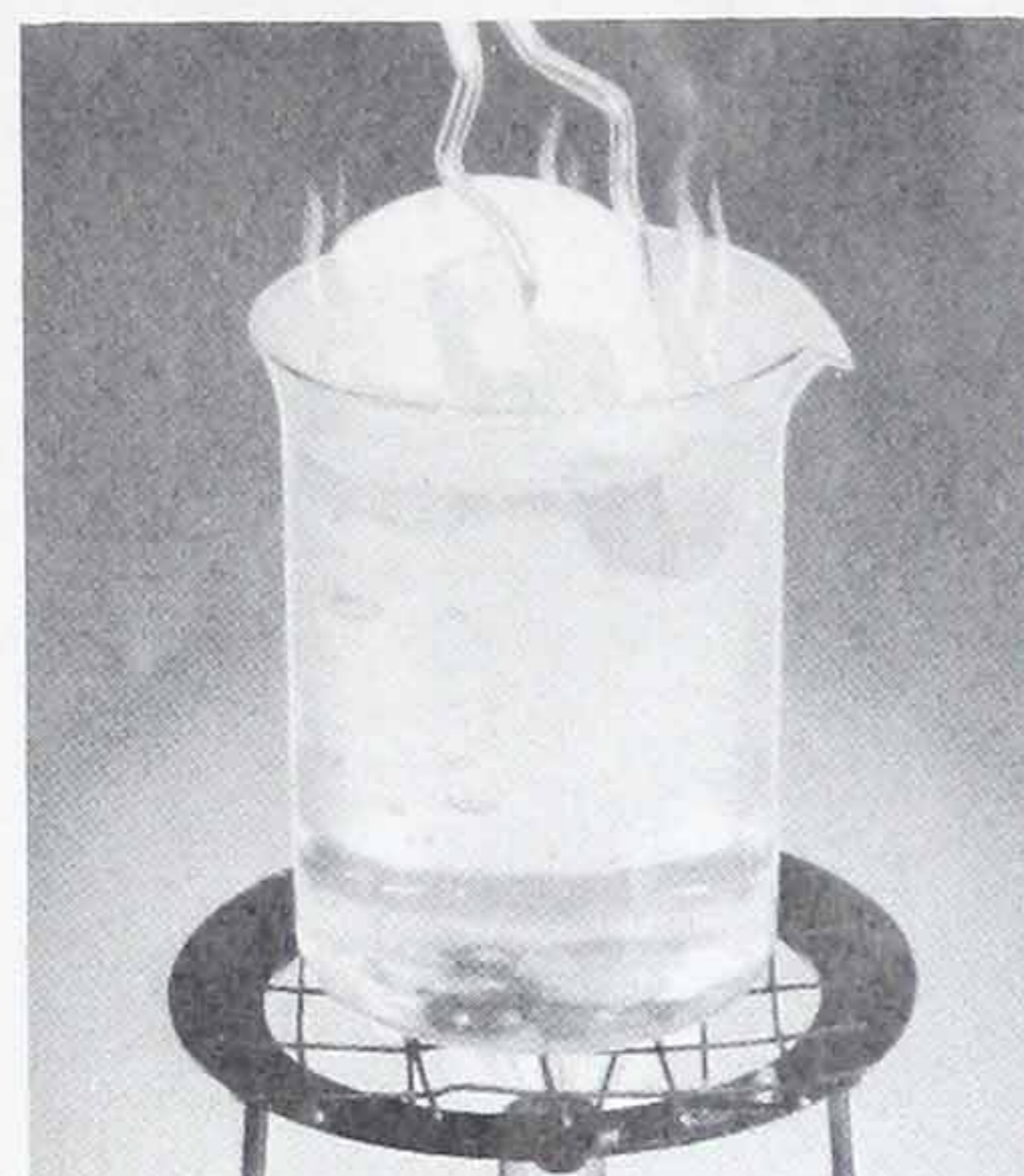
**...first in calcium silicate**

**KAYLO<sup>®</sup>**

**HEAT INSULATION**



*Kaylo Heat Insulation is easily cut with ordinary tools.*



*Boiling water does not break it down.*



*Light weight combined with high strength.*

# KAYLO<sup>®</sup>

## HEAT INSULATION

## HYDROUS CALCIUM SILICATE

**Kaylo Heat Insulation** is made of a chemical compound of lime and silica developed by Owens-Illinois Glass Company. Although not glass, it is made of materials similar to those used in glass, and with which Owens-Illinois has had long experience. The technical name is hydrous calcium silicate. Since it is a chemically reacted material, it contains no added binder. For mechanical effects, a small amount of asbestos fiber is included at the time of manufacture.

Few materials have been so thoroughly tested. Owens-Illinois began work on hydrous calcium silicates in 1938, but no material was offered to the general market until 1943. Thousands of installations since that time have proved field superiority, yet research and product development are still continuing.

Kaylo Heat Insulation is made both as block and as molded pipe insulation, with the widest range of sizes, forms and thicknesses of any high temperature insulation available. Kaylo hydrous calcium silicate combines the most desirable physical characteristics of heat insulating materials to a degree not equalled by other materials on the market. This means outstanding performance and economical application for the user.

### PERFORMANCE

Kaylo Heat Insulation is effective up to 1200°F., performing efficiently on temperatures through the hot water and low pressure steam range and also through temperatures in the super-heated steam range. Therefore, a single material can

be used for high temperatures which usually require combinations of two different insulating materials.

The low coefficient of conductivity, or "k", of Kaylo Heat Insulation places it among the most efficient insulations for temperatures up to 1200°F. (The name "Kaylo" is derived from the fact that "k" is low for the material.) Its high insulation value comes from the extremely small pore structure. So small and numerous are its insulating air spaces that they present a material internal surface of approximately 100 acres per cubic foot of insulation.

Water does not break down Kaylo Heat Insulation. Even when saturated, it retains about 85% of its strength. After being soaked for long periods of time and then dried, it returns to its original thermal efficiency and strength, without apparent shrinking or warping.

Kaylo Heat Insulation is effective after long service. It remains strong and efficient over the years and shows little shrinkage after exposure to temperatures up to 1200°F.

### APPLICATION

With a weight of only 11 pounds per cubic foot, handling, shipping and application are simplified.

Kaylo Heat Insulation has flexural strength, compressive strength and resistance to abrasion far above normal requirements for heat insulation. Breakage during installation, therefore, is usually negligible.

Block or pipe insulation can be cut, scored or sawed with ordinary tools of the trade. The material is non-irritating to the skin and non-toxic.

## PHYSICAL CHARACTERISTICS

**DENSITY**.....Approximately 11 lb. per cu. ft.

**FLEXURAL STRENGTH**.....50 lb. per sq. in.

**COMPRESSIVE STRENGTH (at 5% deformation)**

Before heating.....150 lb. per sq. in.

After heating for 24 hours

at 750° F.....144 lb. per sq. in.

at 1000° F.....123 lb. per sq. in.

at 1200° F.....117 lb. per sq. in.

After boiling for 24 hours

(while wet).....74 lb. per sq. in.

### LOSS IN WEIGHT

After heating for 24 hours

at 750° F.....5.5%

at 1000° F.....7.9%

at 1200° F.....9.8%

After boiling for 24 hours (after drying).....0.2%

### RESISTANCE TO ABRASION

(Conventional tumbling test-loss in weight after 10 minutes)

Before heating.....2.2%

After heating for 24 hours

at 750° F.....3.7%

at 1000° F.....5.7%

at 1200° F.....6.9%

### DIMENSIONAL STABILITY

Linear shrinkage after heating for 24 hours

at 750° F.....0.8%

at 1000° F.....0.9%

at 1200° F.....1.5%

Elongation after saturation (max.).....0.04%

### MOISTURE ABSORPTION (volume)

After 6 hours exposure in atmosphere of

120° F. and 90% Relative Humidity...0.9%

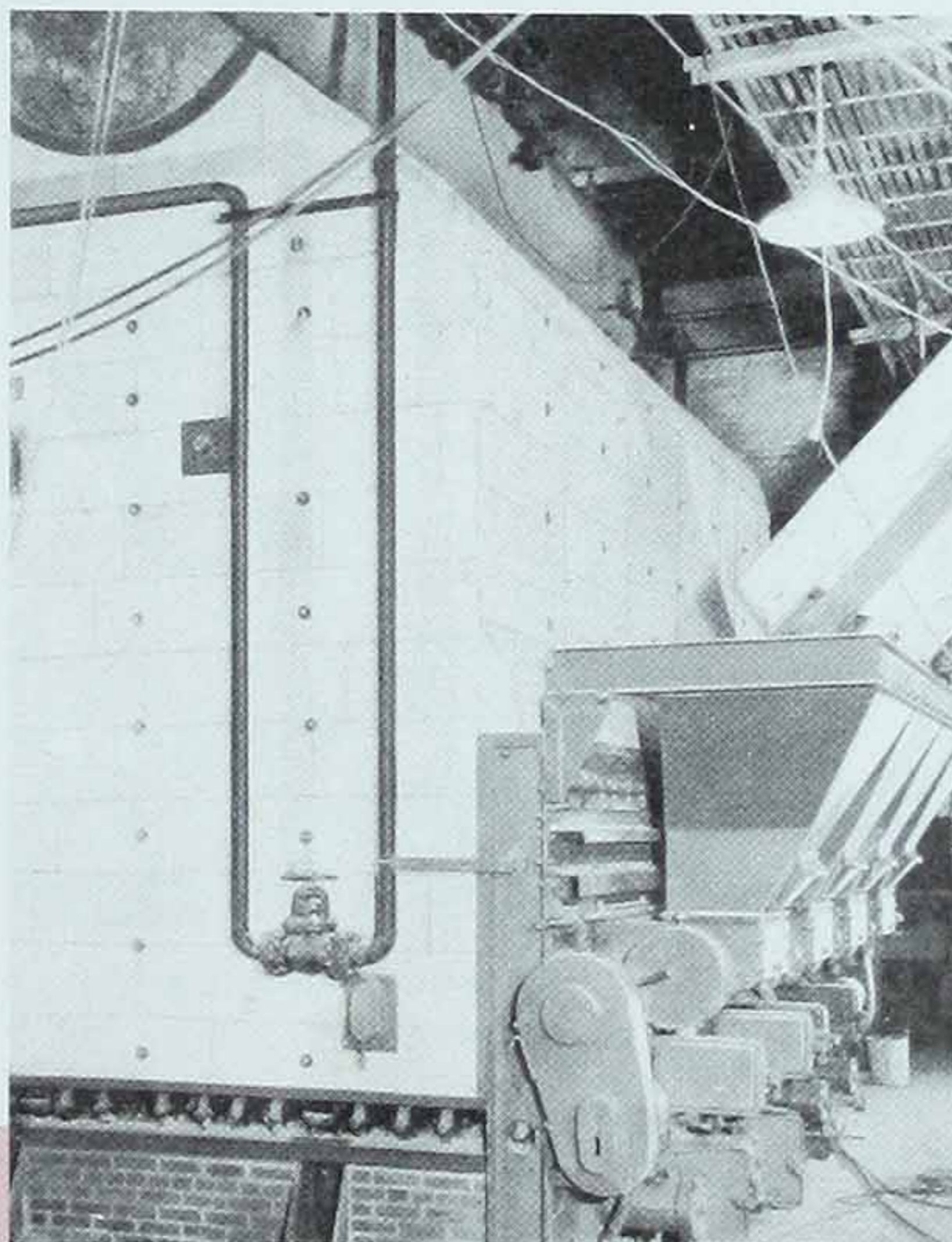
### CONDUCTIVITY (K)

At 100° F. mean temperature.....0.41

At 500° F. mean temperature.....0.54



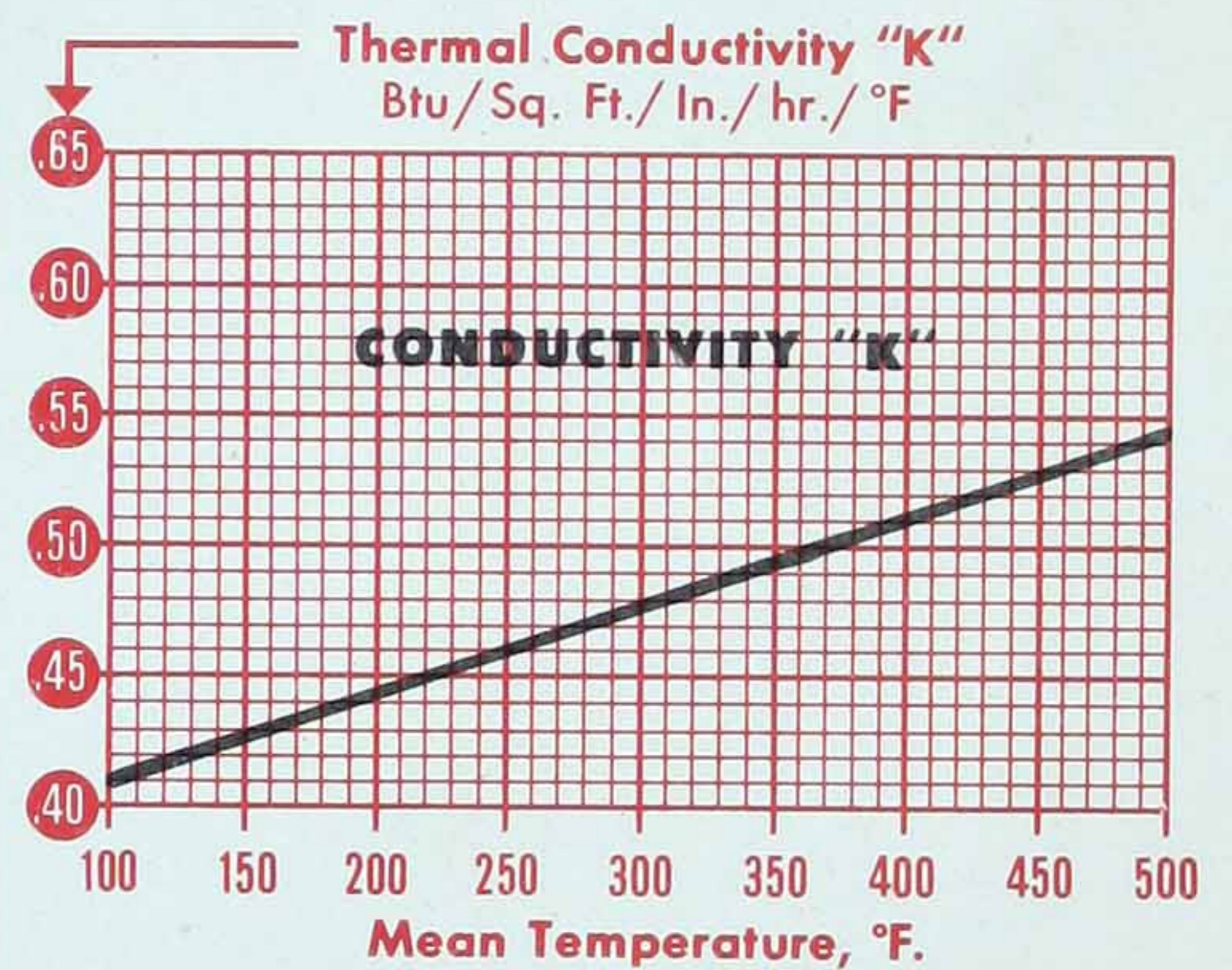
*Applicators like its light weight and good "handleability".*



## TYPICAL APPLICATIONS

Inside or outside, for temperatures up to 1200°F., Kaylo Heat Insulation is used for such equipment as:

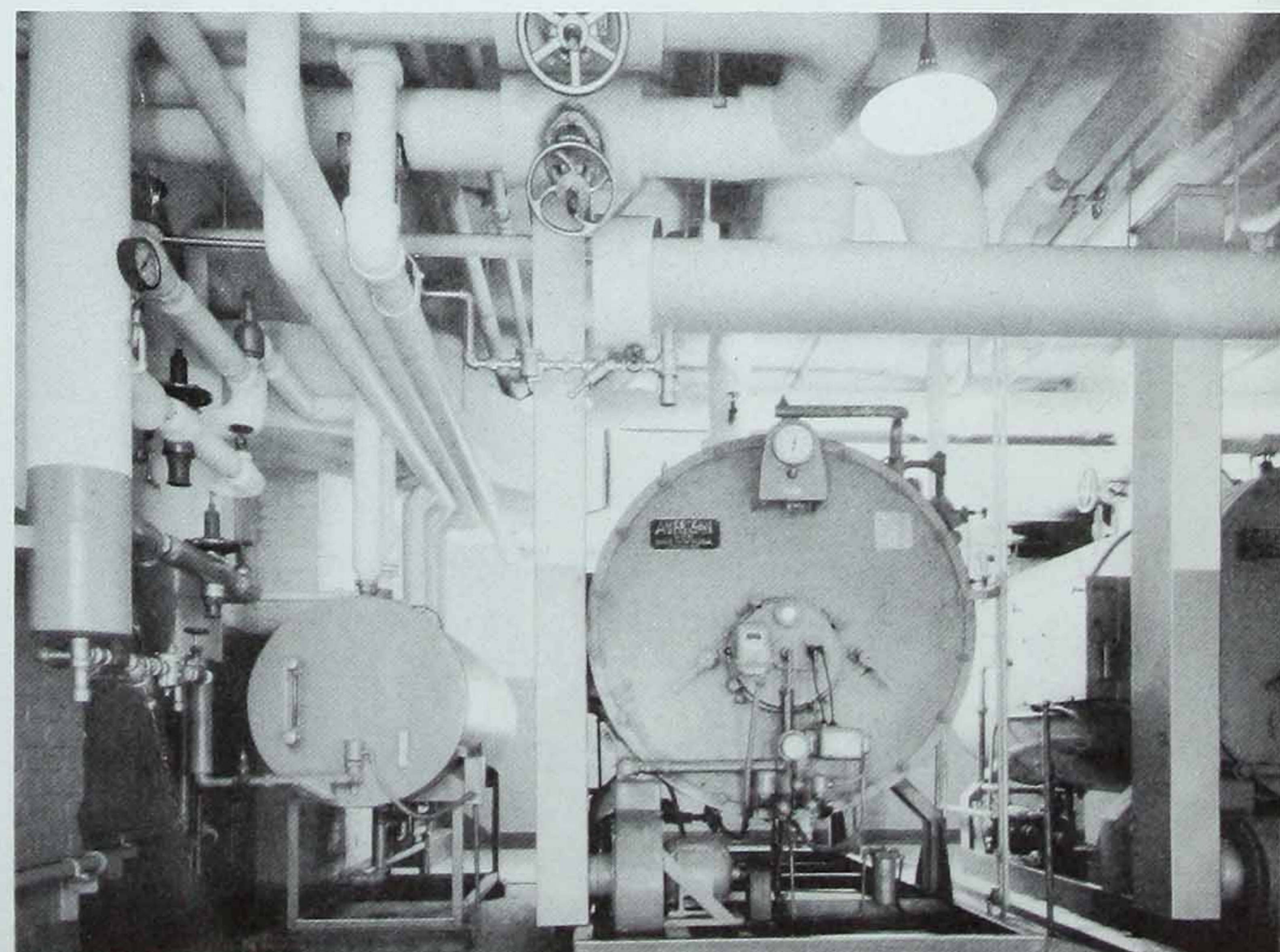
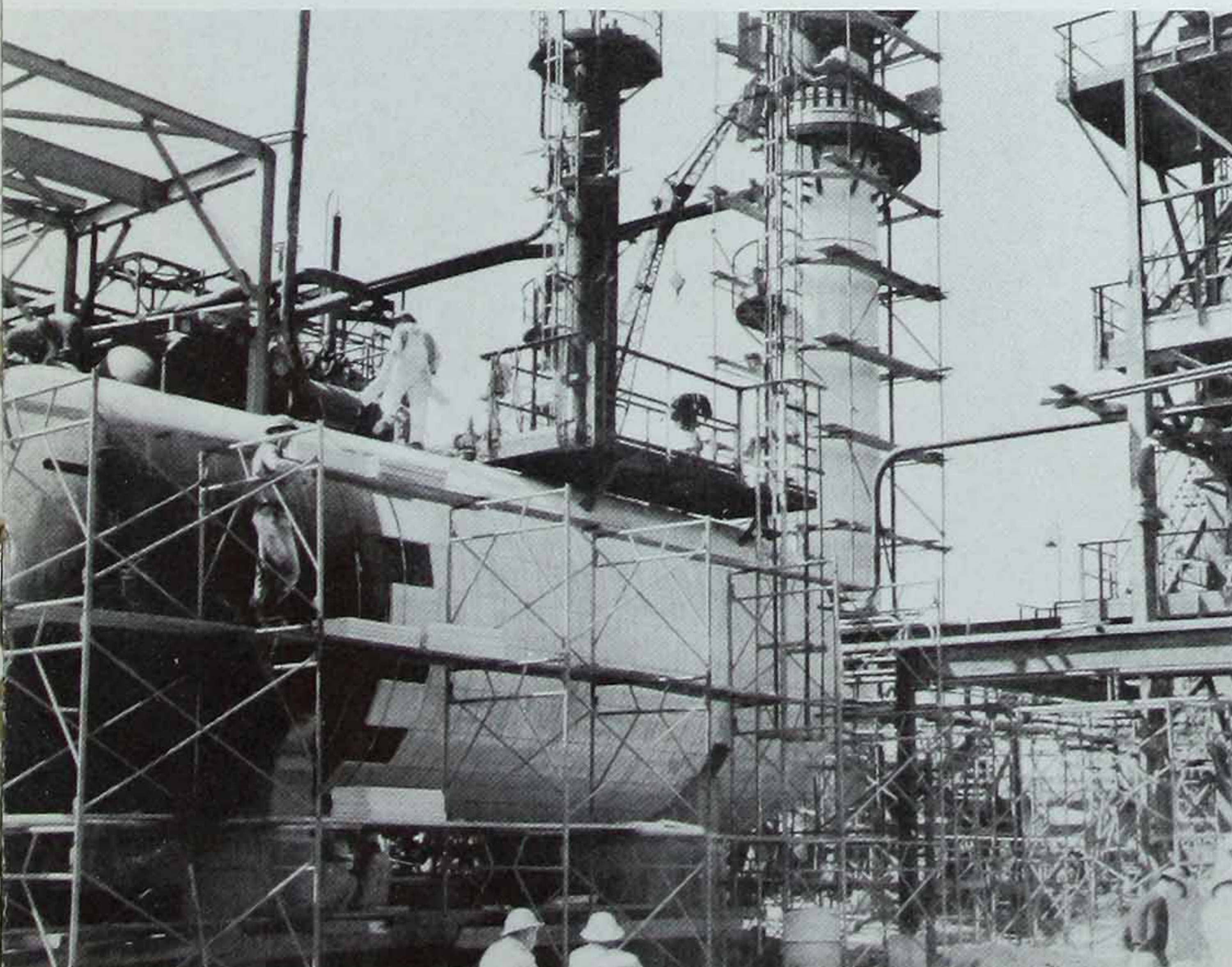
|                 |                   |
|-----------------|-------------------|
| Autoclaves      | Kilns             |
| Boilers         | Lehrs             |
| Breechings      | Locomotives       |
| Chilling Pits   | Ovens             |
| Condensers      | Precipitators     |
| Dryers          | Process Equipment |
| Evaporators     | Steam Lines       |
| Furnaces        | Tanks             |
| Heat Exchangers | Towers            |
| Hot Air Ducts   | Turbines          |
|                 | Vessels           |



*Strength of material and large units mean more economical application, less waste.*

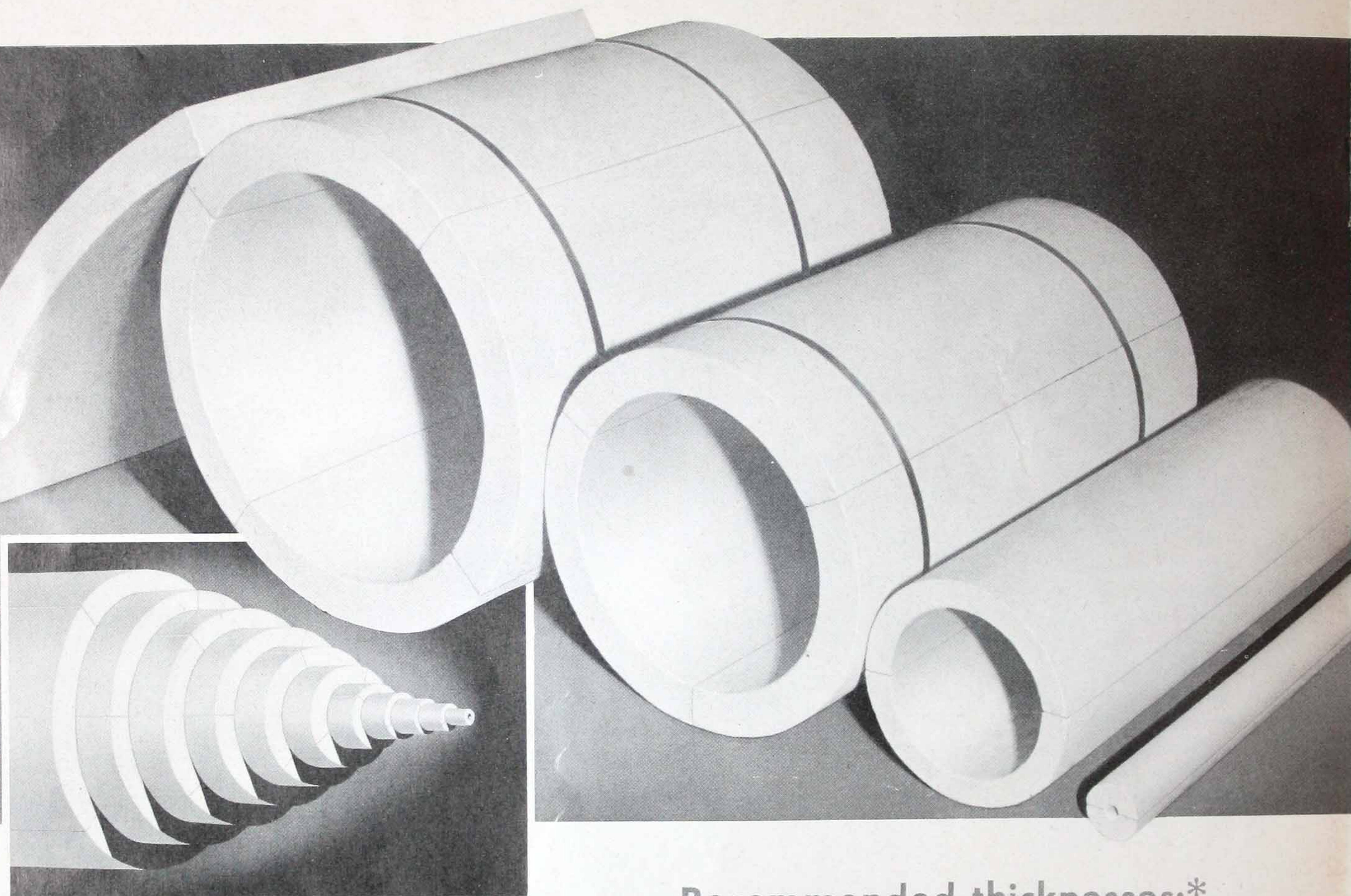
*Neat, clean jobs result when Kaylo Heat Insulation Block is secured with studs.*

*The smooth surfaces and straight edges of the material help make a neat finished job.*



# KAYLO®




## PIPE INSULATION



Kaylo Pipe Insulation reduces inventory requirements because of two features—its wide effective temperature range (up to 1200°F.) and its Simplified Dimensional Standards, which allow nesting.

Kaylo Pipe Insulation is produced in Simplified Dimensional Standards of thicknesses and diameters for pipe sizes from ½" to 72" and tubing down to ¼" in diameter. O. D.'s of insulation correspond to O. D.'s of standard pipes, assuring proper fit for each pipe size and for nesting, when necessary. With this system of snug nesting, Kaylo Pipe Insulation fits all operating conditions, requires less items—reduces maintenance stock.




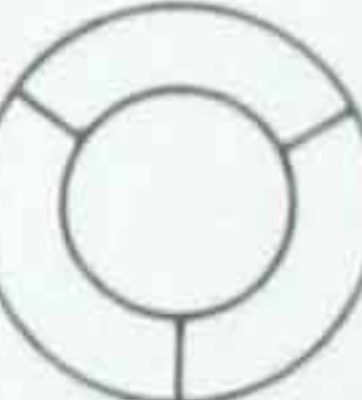
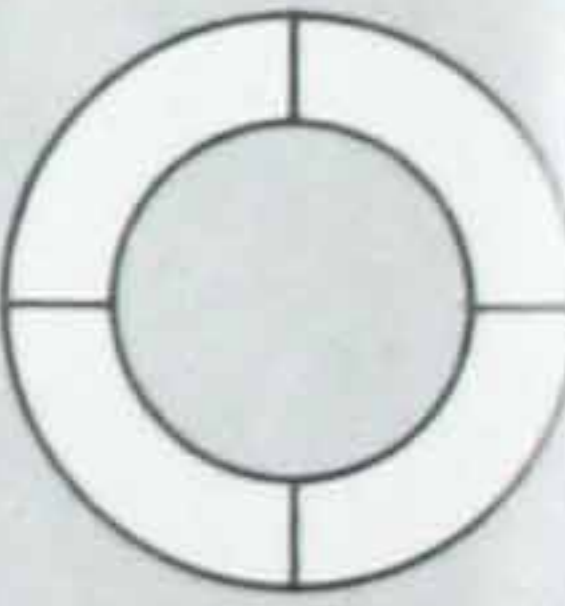

Unshaded  = surface temp. under 140°F.  
 Light Shaded  = surface temp. 140°F. to 145°F.  
 Heavy Shaded  = surface temp. 145°F. to 150°F.

### Recommended thicknesses:\*

|                       |          | TEMP. DIFFERENCE—HOT SURFACE TO AIR, DEG. F. |     |     |     |     |     |     |     |      |      |      |
|-----------------------|----------|--|-----|-----|-----|-----|-----|-----|-----|------|------|------|
|                       |          | 200  | 300 | 400 | 500 | 600 | 700 | 800 | 900 | 1000 | 1100 | 1200 |
| NOMINAL PIPE SIZE—IN. | ½        | 1  | 1   | 1   | 1½  | 1½  | 1½  | 2   | 2   | 2½   | 3    | 3    |
|                       | ¾        | 1  | 1   | 1   | 1½  | 1½  | 1½  | 2   | 2   | 2½   | 3    | 3    |
|                       | 1        | 1  | 1   | 1   | 1½  | 1½  | 1½  | 2   | 2   | 2½   | 3    | 3    |
|                       | 1¼       | 1  | 1   | 1   | 1½  | 1½  | 2   | 2   | 2½  | 2½   | 3    | 3    |
|                       | 1½       | 1  | 1   | 1   | 1½  | 1½  | 2   | 2½  | 2½  | 3    | 3    | 3    |
|                       | 2        | 1  | 1   | 1½  | 1½  | 2   | 2   | 2½  | 2½  | 3    | 3    | 3    |
|                       | 2½       | 1  | 1   | 1½  | 1½  | 2   | 2½  | 2½  | 3   | 3    | 3    | 3½   |
|                       | 3        | 1  | 1   | 1½  | 1½  | 2   | 2½  | 2½  | 3   | 3    | 3½   | 3½   |
|                       | 3½       | 1  | 1   | 1½  | 2   | 2   | 2½  | 3   | 3   | 3½   | 4    | 4    |
|                       | 4        | 1  | 1   | 1½  | 2   | 2   | 2½  | 3   | 3   | 3½   | 4    | 4    |
|                       | 6        | 1½   | 1½  | 1½  | 2   | 2   | 2½  | 3   | 3   | 3½   | 4    | 4    |
|                       | 8        | 1½   | 1½  | 1½  | 2   | 2   | 2½  | 3   | 3½  | 3½   | 4    | 4½   |
|                       | 10       | 1½   | 1½  | 1½  | 2   | 2   | 2½  | 3   | 3½  | 4    | 4    | 4½   |
|                       | 12       | 1½   | 1½  | 1½  | 2   | 2½  | 3   | 3   | 3½  | 4    | 4½   | 5    |
|                       | 14       | 1½   | 1½  | 1½  | 2   | 2½  | 3   | 3   | 3½  | 4    | 4½   | 5    |
|                       | 16       | 1½   | 1½  | 1½  | 2   | 2½  | 3   | 3   | 3½  | 4    | 4½   | 5    |
|                       | 18 to 72 | 1½   | 1½  | 1½  | 2   | 2½  | 3   | 3   | 3½  | 4    | 4½   | 5    |

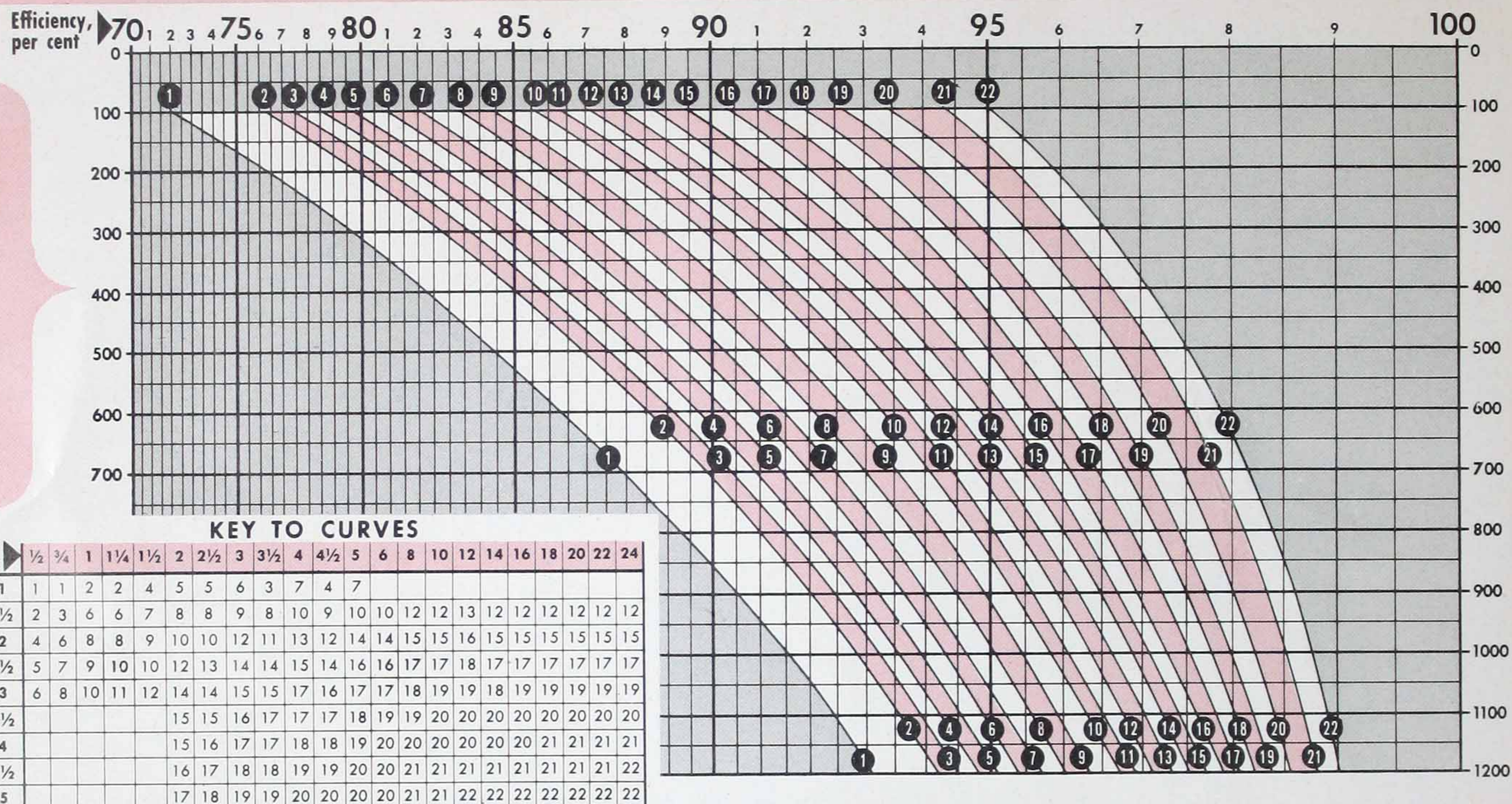
## Standard sizes, thicknesses and forms:

**Red lines** below show equal O.D.'s for conformance with *Simplified Dimensional Standards*.

| NOMINAL PIPE SIZE |          | NOMINAL THICKNESS OF INSULATION |       |        |       |        |       |                        |       |        |       |        |       |                   |       |        |       | FORMS  |       |   |
|-------------------|----------|---------------------------------|-------|--------|-------|--------|-------|------------------------|-------|--------|-------|--------|-------|-------------------|-------|--------|-------|--------|-------|---|
| PIPE<br>O. D.     | ↓        | 1                               |       | 1½     |       | 2      |       | 2½                     |       | 3      |       | 3½     |       | 4                 |       | 4½     |       | 5      |       |   |
|                   |          | Actual                          | O. D. | Actual | O. D. | Actual | O. D. | Actual                 | O. D. | Actual | O. D. | Actual | O. D. | Actual            | O. D. | Actual | O. D. | Actual | O. D. |   |
| ½                 | .84      | 1.00                            | 2.88  | 1.56   | 4.00  | 2.06   | 5.00  | 2.35                   | 5.56  | 2.88   | 6.63  |        |       |                   |       |        |       |        |       | SECTIONAL<br>        |
| ¾                 | 1.05     | .90                             | 2.88  | 1.46   | 4.00  | 1.96   | 5.00  | 2.24                   | 5.56  | 2.77   | 6.63  |        |       |                   |       |        |       |        |       |   |
| 1                 | 1.32     | 1.08                            | 3.50  | 1.58   | 4.50  | 2.11   | 5.56  | 2.64                   | 6.63  | 3.14   | 7.63  |        |       |                   |       |        |       |        |       |   |
| 1¼                | 1.66     | .90                             | 3.50  | 1.40   | 4.50  | 1.94   | 5.56  | 2.47                   | 6.63  | 2.97   | 7.63  |        |       |                   |       |        |       |        |       |   |
| 1½                | 1.90     | 1.03                            | 4.00  | 1.53   | 5.00  | 1.82   | 5.56  | 2.35                   | 6.63  | 2.85   | 7.63  |        |       |                   |       |        |       |        |       | TRI-SEGMENTAL<br>  |
| 2                 | 2.38     | 1.03                            | 4.50  | 1.56   | 5.56  | 2.09   | 6.63  | 2.59                   | 7.63  | 3.09   | 8.63  | 3.59   | 9.63  | 4.16              | 10.75 | 4.66   | 11.75 | 5.16   | 12.75 |   |
| 2½                | 2.88     | 1.03                            | 5.00  | 1.31   | 5.56  | 1.84   | 6.63  | 2.34                   | 7.63  | 2.84   | 8.63  | 3.34   | 9.63  | 3.91              | 10.75 | 4.41   | 11.75 | 4.91   | 12.75 |   |
| 3                 | 3.50     | 1.00                            | 5.56  | 1.53   | 6.63  | 2.03   | 7.63  | 2.53                   | 8.63  | 3.03   | 9.63  | 3.59   | 10.75 | 4.09              | 11.75 | 4.59   | 12.75 | 5.22   | 14.00 |   |
| 3½                | 4.00     | .75                             | 5.56  | 1.28   | 6.63  | 1.78   | 7.63  | 2.28                   | 8.63  | 2.78   | 9.63  | 3.34   | 10.75 | 3.84              | 11.75 | 4.34   | 12.75 | 4.97   | 14.00 |   |
| 4                 | 4.50     | 1.03                            | 6.63  | 1.53   | 7.63  | 2.03   | 8.63  | 2.53                   | 9.63  | 3.09   | 10.75 | 3.59   | 11.75 | 4.09              | 12.75 | 4.72   | 14.00 | 5.22   | 15.00 | QUAD-SEGMENTAL<br> |
| 4½                | 5.00     | .78                             | 6.63  | 1.28   | 7.63  | 1.78   | 8.63  | 2.28                   | 9.63  | 2.84   | 10.75 | 3.34   | 11.75 | 3.84              | 12.75 | 4.47   | 14.00 | 4.97   | 15.00 |   |
| 5                 | 5.56     | 1.00                            | 7.63  | 1.50   | 8.63  | 2.00   | 9.63  | 2.56                   | 10.75 | 3.06   | 11.75 | 3.56   | 12.75 | 4.19              | 14.00 | 4.69   | 15.00 | 5.19   | 16.00 |   |
| 6                 | 6.63     | .94                             | 8.63  | 1.44   | 9.63  | 2.00   | 10.75 | 2.50                   | 11.75 | 3.00   | 12.75 | 3.63   | 14.00 | 4.13              | 15.00 | 4.63   | 16.00 | 5.13   | 17.00 |   |
| 7                 | 7.63     |                                 |       | 1.50   | 10.75 | 2.00   | 11.75 | 2.50                   | 12.75 | 3.13   | 14.00 | 3.63   | 15.00 | 4.13              | 16.00 | 4.63   | 17.00 | 5.13   | 18.00 |   |
| 8                 | 8.63     |                                 |       | 1.50   | 11.75 | 2.00   | 12.75 | 2.63                   | 14.00 | 3.13   | 15.00 | 3.63   | 16.00 | 4.13              | 17.00 | 4.63   | 18.00 | 5.13   | 19.00 | K-SEGMENTAL<br>    |
| 9                 | 9.63     |                                 |       | 1.50   | 12.75 | 2.13   | 14.00 | 2.63                   | 15.00 | 3.13   | 16.00 | 3.63   | 17.00 | 4.13              | 18.00 | 4.63   | 19.00 | 5.13   | 20.00 |   |
| 10                | 10.75    |                                 |       | 1.56   | 14.00 | 2.06   | 15.00 | 2.56                   | 16.00 | 3.06   | 17.00 | 3.56   | 18.00 | 4.06              | 19.00 | 4.56   | 20.00 | 5.06   | 21.00 |   |
| 11                | 11.75    |                                 |       | 1.56   | 15.00 | 2.06   | 16.00 | 2.56                   | 17.00 | 3.06   | 18.00 | 3.56   | 19.00 | 4.06              | 20.00 | 4.56   | 21.00 | 5.06   | 22.00 |   |
| 12                | 12.75    |                                 |       | 1.55   | 16.00 | 2.05   | 17.00 | 2.55                   | 18.00 | 3.05   | 19.00 | 3.55   | 20.00 | 4.05              | 21.00 | 4.55   | 22.00 | 5.05   | 23.00 |   |
| 14                | 14.00    |                                 |       | 1.42   | 17.00 | 1.92   | 18.00 | 2.42                   | 19.00 | 2.92   | 20.00 | 3.42   | 21.00 | 3.92              | 22.00 | 4.42   | 23.00 | 4.92   | 24.00 | ← 18" NOMINAL →   |
| 15                | 15.00    |                                 |       | 1.42   | 18.00 | 1.92   | 19.00 | 2.42                   | 20.00 | 2.92   | 21.00 | 3.42   | 22.00 | 3.92              | 23.00 | 4.42   | 24.00 | 4.92   | 25.00 |   |
| 16                | 16.00    |                                 |       | 1.41   | 19.00 | 1.91   | 20.00 | 2.41                   | 21.00 | 2.91   | 22.00 | 3.41   | 23.00 | 3.91              | 24.00 | 4.41   | 25.00 | 4.91   | 26.00 |   |
| 17                | 17.00    |                                 |       | 1.41   | 20.00 | 1.91   | 21.00 | 2.41                   | 22.00 | 2.91   | 23.00 | 3.41   | 24.00 | 3.91              | 25.00 | 4.41   | 26.00 | 4.91   | 27.00 |   |
| 18                | 18.00    |                                 |       | 1.41   | 21.00 | 1.91   | 22.00 | 2.41                   | 23.00 | 2.91   | 24.00 | 3.41   | 25.00 | 3.91              | 26.00 | 4.41   | 27.00 | 4.91   | 28.00 |   |
| 19                | 19.00    |                                 |       | 1.41   | 22.00 | 1.91   | 23.00 | 2.41                   | 24.00 | 2.91   | 25.00 | 3.41   | 26.00 | 3.91              | 27.00 | 4.41   | 28.00 | 4.91   | 29.00 | ← 18" NOMINAL →   |
| 20                | 20.00    |                                 |       | 1.41   | 23.00 | 1.91   | 24.00 | 2.41                   | 25.00 | 2.91   | 26.00 | 3.41   | 27.00 | 3.91              | 28.00 | 4.41   | 29.00 | 4.91   | 30.00 |   |
| 21                | 21.00    |                                 |       | 1.41   | 24.00 | 1.91   | 25.00 | 2.41                   | 26.00 | 2.91   | 27.00 | 3.41   | 28.00 | 3.91              | 29.00 | 4.41   | 30.00 | 4.91   | 31.00 |   |
| 22                | 22.00    |                                 |       | 1.41   | 25.00 | 1.91   | 26.00 | 2.41                   | 27.00 | 2.91   | 28.00 | 3.41   | 29.00 | 3.91              | 30.00 | 4.41   | 31.00 | 4.91   | 32.00 |   |
| 23                | 23.00    |                                 |       | 1.41   | 26.00 | 1.91   | 27.00 | 2.41                   | 28.00 | 2.91   | 29.00 | 3.41   | 30.00 | 3.91              | 31.00 | 4.41   | 32.00 | 4.91   | 33.00 |   |
| 24                | 24.00    |                                 |       | 1.41   | 27.00 | 1.91   | 28.00 | 2.41                   | 29.00 | 2.91   | 30.00 | 3.41   | 31.00 | 3.91              | 32.00 | 4.41   | 33.00 | 4.91   | 34.00 | ← 18" NOMINAL →   |
| 25                | 25.00    |                                 |       | 1.41   | 28.00 | 1.91   | 29.00 | 2.41                   | 30.00 | 2.91   | 31.00 | 3.41   | 32.00 | 3.91              | 33.00 | 4.41   | 34.00 | 4.91   | 35.00 |   |
| 26                | 26.00    |                                 |       | 1.41   | 29.00 | 1.91   | 30.00 | 2.41                   | 31.00 | 2.91   | 32.00 | 3.41   | 33.00 | 3.91              | 34.00 | 4.41   | 35.00 | 4.91   | 36.00 |   |
| 27                | 27.00    |                                 |       | 1.41   | 30.00 | 1.91   | 31.00 | 2.41                   | 32.00 | 2.91   | 33.00 | 3.41   | 34.00 | 3.91              | 35.00 | 4.41   | 36.00 | 4.91   | 37.00 |   |
| 28                | 28.00    |                                 |       | 1.41   | 31.00 | 1.91   | 32.00 | 2.41                   | 33.00 | 2.91   | 34.00 | 3.41   | 35.00 | 3.91              | 36.00 | 4.41   | 37.00 | 4.91   | 38.00 |   |
| 29                | 29.00    |                                 |       | 1.41   | 32.00 | 1.91   | 33.00 | 2.41                   | 34.00 | 2.91   | 35.00 | 3.41   | 36.00 | 3.91              | 37.00 | 4.41   | 38.00 | 4.91   | 39.00 | ← 18" NOMINAL →   |
| 30                | 30.00    |                                 |       | 1.41   | 33.00 | 1.91   | 34.00 | 2.41                   | 35.00 | 2.91   | 36.00 | 3.41   | 37.00 | 3.91              | 38.00 | 4.41   | 39.00 | 4.91   | 40.00 |   |
| 31                | 31.00    |                                 |       | 1.41   | 34.00 | 1.91   | 35.00 | 2.41                   | 36.00 | 2.91   | 37.00 | 3.41   | 38.00 | 3.91              | 39.00 | 4.41   | 40.00 | 4.91   | 41.00 |   |
| 32                | 32.00    |                                 |       | 1.41   | 35.00 | 1.91   | 36.00 | 2.41                   | 37.00 | 2.91   | 38.00 | 3.41   | 39.00 | 3.91              | 40.00 | 4.41   | 41.00 | 4.91   | 42.00 |   |
| 33                | 33.00    |                                 |       | 1.41   | 36.00 | 1.91   | 37.00 | 2.41                   | 38.00 | 2.91   | 39.00 | 3.41   | 40.00 | 3.91              | 41.00 | 4.41   | 42.00 | 4.91   | 43.00 |   |
| 34                | 34.00    |                                 |       | 1.41   | 37.00 | 1.91   | 38.00 | 2.41                   | 39.00 | 2.91   | 40.00 | 3.41   | 41.00 | 3.91              | 42.00 | 4.41   | 43.00 | 4.91   | 44.00 | ← 18" NOMINAL →   |
| 35                | 35.00    |                                 |       | 1.41   | 38.00 | 1.91   | 39.00 | 2.41                   | 40.00 | 2.91   | 41.00 | 3.41   | 42.00 | 3.91              | 43.00 | 4.41   | 44.00 |        |       |   |
| 36                | 36.00    |                                 |       | 1.41   | 39.00 | 1.91   | 40.00 | 2.41                   | 41.00 | 2.91   | 42.00 | 3.41   | 43.00 | 3.91              | 44.00 |        |       |        |       |   |
| 37                | 37.00    |                                 |       | 1.41   | 40.00 | 1.91   | 41.00 | 2.41                   | 42.00 | 2.91   | 43.00 | 3.41   | 44.00 |                   |       |        |       |        |       |   |
| 38                | 38.00    |                                 |       | 1.41   | 41.00 | 1.91   | 42.00 | 2.41                   | 43.00 | 2.91   | 44.00 |        |       |                   |       |        |       |        |       |   |
| 39                | 39.00    |                                 |       | 1.41   | 42.00 | 1.91   | 43.00 | 2.41                   | 44.00 |        |       |        |       |                   |       |        |       |        |       | ← 18" NOMINAL →   |
| 40                | 40.00    |                                 |       | 1.41   | 43.00 | 1.91   | 44.00 |                        |       |        |       |        |       |                   |       |        |       |        |       |   |
| 41                | 41.00    |                                 |       | 1.41   | 44.00 |        |       |                        |       |        |       |        |       |                   |       |        |       |        |       |   |
| 42 to 72          | to 72.00 |                                 |       |        |       |        |       |                        |       |        |       |        |       |                   |       |        |       |        |       |   |
|                   |          | SINGLE LAYER ONLY               |       |        |       |        |       | SINGLE OR DOUBLE LAYER |       |        |       |        |       | DOUBLE LAYER ONLY |       |        |       |        |       |   |

# KAYLO PIPE INSULATION

**Insulation Efficiencies:** Efficiency x Bare Pipe Heat Loss = Heat Saved By Insulation BTU/Lin.Ft./hr.  
100-Efficiency x Bare Pipe Heat Loss = Heat Loss Through Insulation BTU/Lin.Ft./hr.

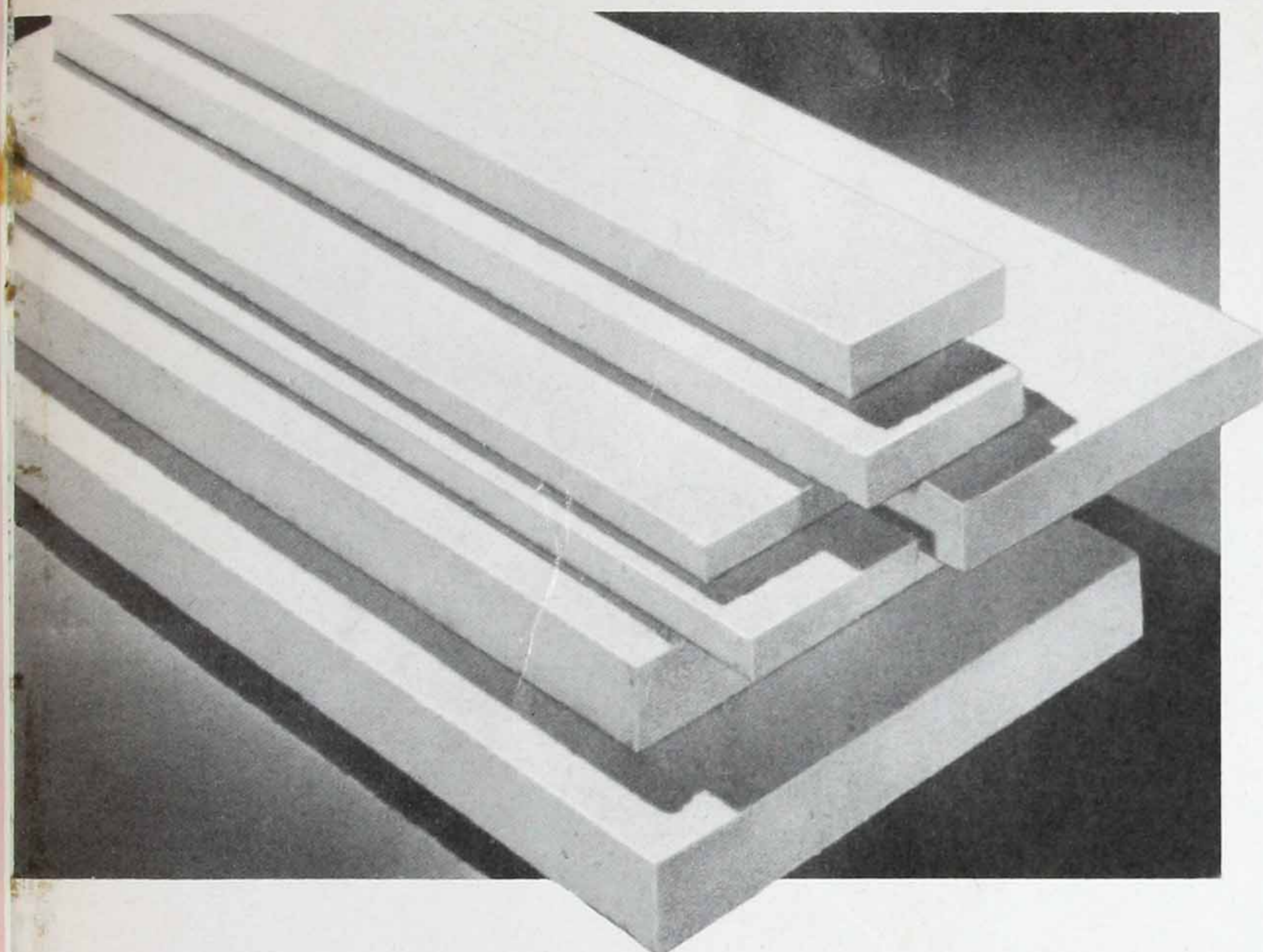


**Bare Pipe Heat Loss:** BTU per lineal foot, per hour. Still ambient air 80°F.

| Temperature diff., deg. F., pipe to air | 100  | 200  | 300  | 400  | 500   | 600   | 700   | 800   | 900   | 1000  | 1100  | 1200   |
|---|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|--------|
| 1/2                                     | 55   | 136  | 247  | 394  | 581   | 820   | 1120  | 1482  | 1929  | 2469  | 3115  | 3882   |
| 3/4                                     | 67   | 167  | 304  | 483  | 716   | 1013  | 1381  | 1835  | 2391  | 3064  | 3869  | 4825   |
| 1                                       | 82   | 206  | 373  | 595  | 884   | 1252  | 1709  | 2275  | 2967  | 3805  | 4809  | 6002   |
| 1 1/4                                   | 102  | 255  | 464  | 741  | 1103  | 1565  | 2139  | 2851  | 3722  | 4778  | 6044  | 7547   |
| 1 1/2                                   | 115  | 289  | 526  | 841  | 1252  | 1780  | 2434  | 3247  | 4242  | 5448  | 6894  | 8613   |
| 2                                       | 141  | 355  | 647  | 1036 | 1546  | 2199  | 3013  | 4022  | 5260  | 6761  | 8562  | 10700  |
| 2 1/2                                   | 168  | 423  | 773  | 1240 | 1853  | 2639  | 3619  | 4945  | 6330  | 8141  | 10317 | 12904  |
| 3                                       | 202  | 502  | 930  | 1493 | 2234  | 3186  | 4373  | 5850  | 7663  | 9863  | 12507 | 15651  |
| 3 1/2                                   | 228  | 575  | 1052 | 1691 | 2533  | 3616  | 4968  | 6649  | 8714  | 11222 | 14236 | 17822  |
| 4                                       | 255  | 642  | 1176 | 1892 | 2836  | 4051  | 5570  | 7458  | 9780  | 12599 | 15988 | 20022  |
| 4 1/2                                   | 281  | 708  | 1298 | 2090 | 3137  | 4481  | 6164  | 8258  | 10834 | 13962 | 17724 | 22201  |
| 5                                       | 310  | 782  | 1435 | 2312 | 3472  | 4965  | 6834  | 9161  | 12022 | 15500 | 19680 | 24659  |
| 6                                       | 364  | 920  | 1691 | 2728 | 4100  | 5870  | 8075  | 10848 | 14248 | 19763 | 23347 | 29267  |
| 8                                       | 464  | 1178 | 2169 | 3506 | 5280  | 7570  | 10443 | 14024 | 18436 | 23801 | 30261 | 37955  |
| 10                                      | 572  | 1447 | 2668 | 4318 | 6512  | 9350  | 12912 | 17355 | 22833 | 29500 | 37525 | 47089  |
| 12                                      | 671  | 1699 | 3137 | 5086 | 7675  | 11031 | 15243 | 20505 | 26993 | 34891 | 44402 | 55742  |
| 14                                      | 731  | 1851 | 3419 | 5544 | 8374  | 12042 | 16649 | 22403 | 29502 | 38143 | 48557 | 60967  |
| 16                                      | 828  | 2098 | 3877 | 6294 | 9514  | 13692 | 18941 | 25499 | 33597 | 43451 | 55330 | 69493  |
| 18                                      | 926  | 2348 | 4344 | 7059 | 10672 | 15374 | 21277 | 28660 | 37775 | 48873 | 62249 | 78204  |
| 20                                      | 1022 | 2592 | 4797 | 7800 | 11806 | 17009 | 23554 | 31742 | 41848 | 54161 | 69003 | 86704  |
| 22                                      | 1117 | 2835 | 5250 | 8539 | 12935 | 18642 | 25829 | 34817 | 45917 | 59439 | 75746 | 95196  |
| 24                                      | 1213 | 3078 | 5706 | 9286 | 14071 | 20291 | 28122 | 37917 | 50023 | 64771 | 82564 | 103784 |

NOMINAL PIPE SIZE

# KAYLO<sup>®</sup> HEAT INSULATING BLOCK



## Standard Sizes and Thicknesses:

(in inches)

**Thicknesses\*:** 1, 1½, 2, 2½, 3, 3½, 4, 4½, 5

**Widths:** 3, 6, 9, 12, 18

**Length:** 36

\*Thicknesses 3" and over are laminated.

## Recommended Thicknesses:\*

(in inches)

|             | TEMP. DIFF. HOT SURFACE TO AIR DEG. F. |     |     |     |     |     |     |     |      |      |      |
|-------------|--|-----|-----|-----|-----|-----|-----|-----|------|------|------|
| Temp. Diff. | 200                                    | 300 | 400 | 500 | 600 | 700 | 800 | 900 | 1000 | 1100 | 1200 |
| Thick-ness  | 1                                      | 1   | 1½  | 2   | 2½  | 3   | 3   | 3½  | 4    | 4½   | 5    |

\*Unshaded.  = Surface temp. under 140°F.

Heavy shaded  = Surface temp. 145°F. to 150°F.

The complete range of standard widths up to 18" and thicknesses up to 5" allows Kaylo Heat Insulating Block to be used as single layer insulation for flat surfaces up to 1200°F., even in the temperature range which usually requires two thicknesses of dissimilar materials. This assumes that relatively high temperatures at joints are not objectionable for the higher working temperatures. Thus, single layers of Kaylo block can be used for nearly all the high temperature insulation applications for flat surfaces which occur in industry.

Kaylo heat insulation is also available in curved block, nominally 18" wide, to fit surfaces of large vessels from 6 to 60' in diameter. For vessels of greater diameter, flat block is used.

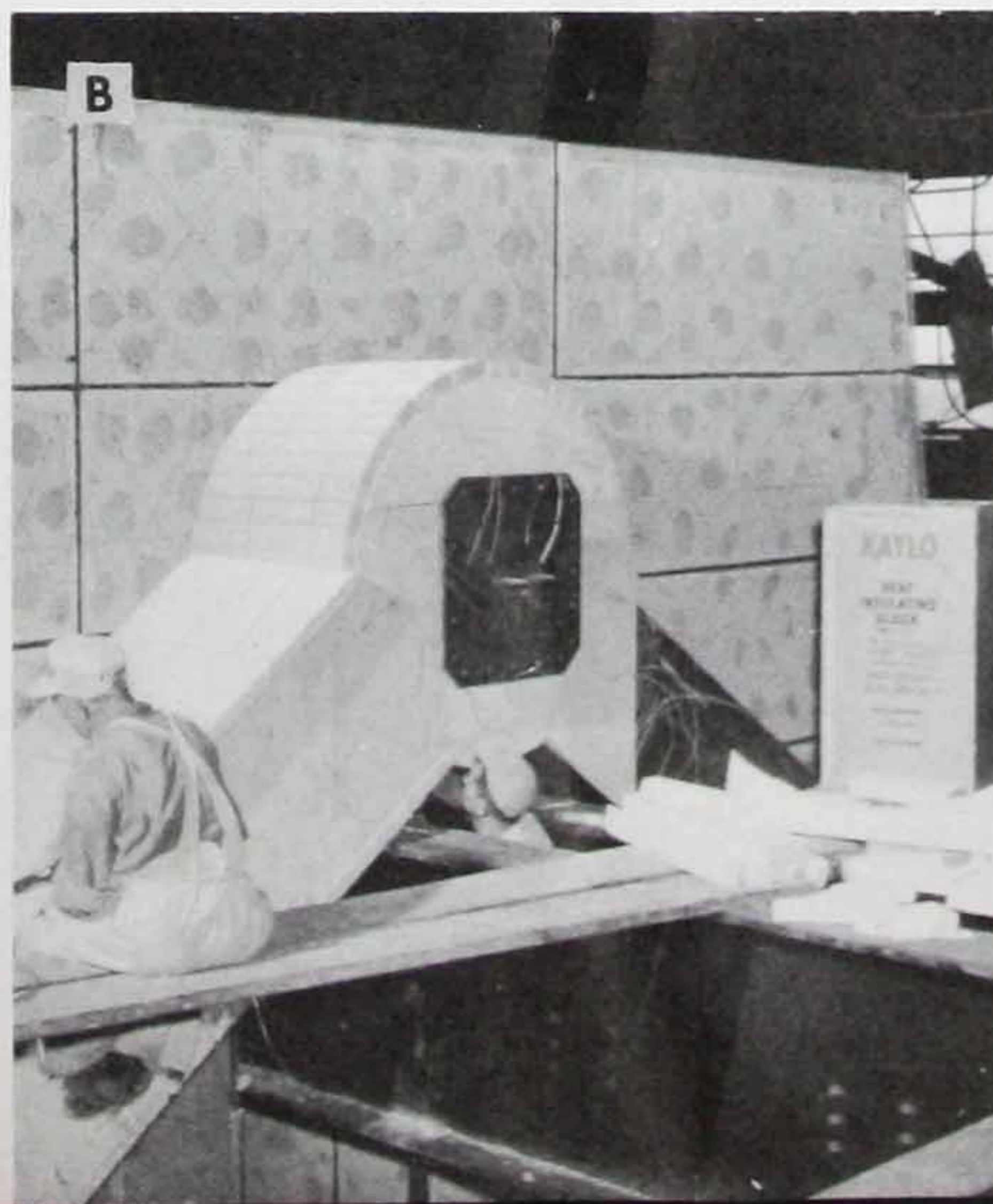
The complete range of Kaylo heat insulation, including both pipe insulation and block, can be comprehended by visualizing a huge solid mass of nested insulation, layer on layer, beginning with an inside diameter equivalent to the O.D. of a standard ¼" tube and increasing to infinity.

In this mass, built of successive, snug-fitting layers of Kaylo heat insulation, would be pipe insulation in Simplified Dimensional Standards for tubing or pipes from ¼ to 72" in diameter, curved block for vessels from 72" to 60' in diameter and flat block from 60' to infinity.

**A** Applying Kaylo Heat Insulating Block to locomotive boiler, using tie wires.

**B** Insulating ducts and boiler at power plant, using laced tie wires and wire mesh for finishing cement.

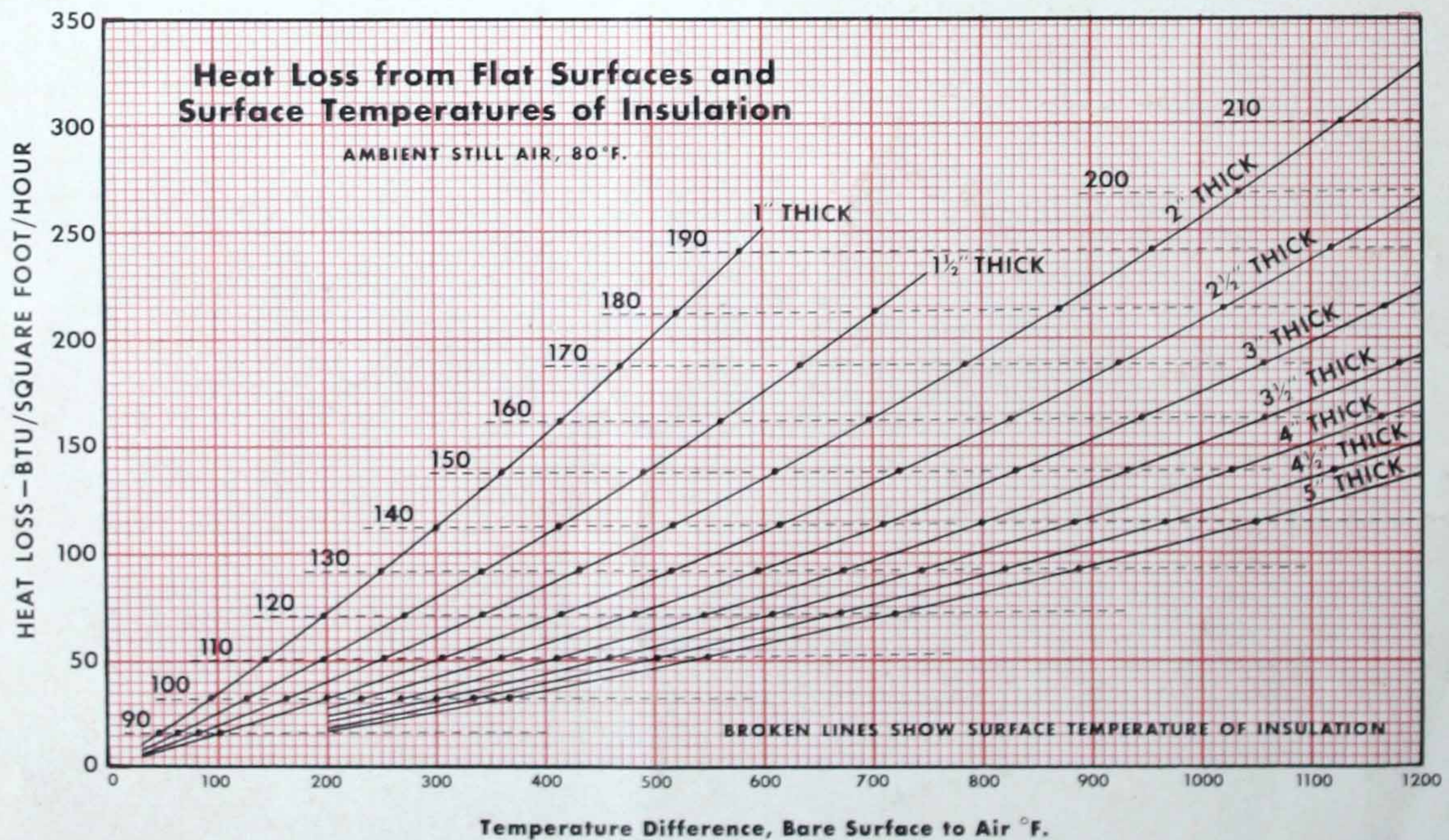
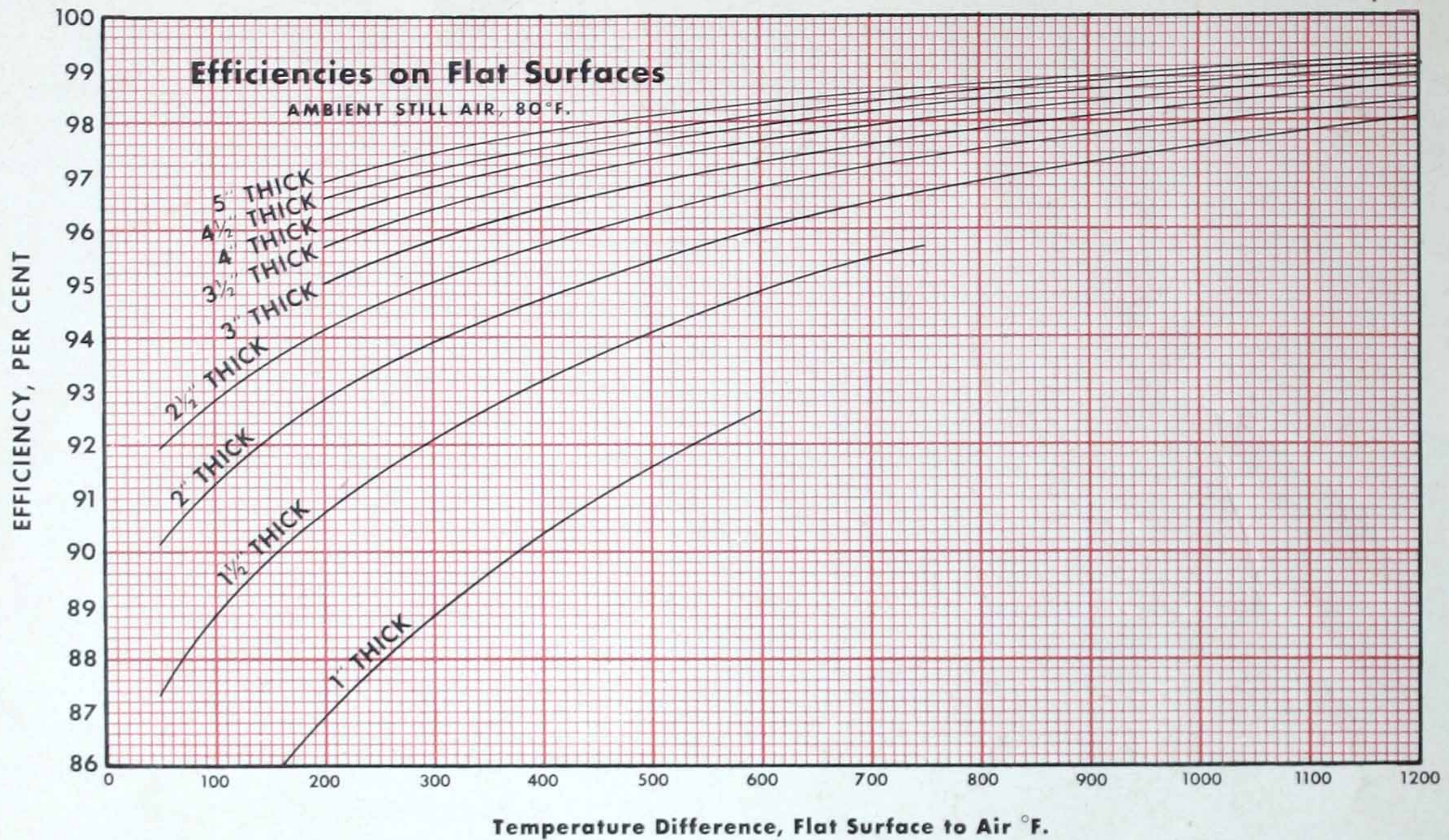
**C** Drying oven installation using studs and speed clips for fastening insulation.



# KAYLO<sup>®</sup>

## HEAT INSULATING BLOCK

Heat Loss, Surface Temperatures, and Efficiencies



For Additional Information Write:

**KAYLO DIVISION**

Owens-Illinois Glass Company

TOLEDO 1, OHIO